

**AMENDMENTS TO THE CLAIMS**

1. (Currently Amended) A method for detecting the differentiation status of cells in a population of mammalian pluripotent stem cells ~~mammalian embryonic stem cells~~ comprising detecting ~~[[the]]~~ cell surface expression of 5T4 antigen ~~in said stem~~ on cells in the population of mammalian pluripotent stem cells, wherein 5T4 expression indicates ~~[[stem]]~~ cells in the population that are undergoing differentiation.

2. (Canceled)

3. (Canceled)

4. (Currently Amended) A method as claimed in claim 1 wherein said population of mammalian pluripotent stem cells ~~[[are]]~~ comprise embryonic stem cells, embryonic germ cells or embryonal carcinoma cells.

5. (Currently Amended) A method as claimed in claim 1 wherein said mammalian pluripotent stem cells are murine, human, primate, porcine, feline, bovine, ovine or canine.

6. (Currently Amended) A method of claim 1 wherein said cell surface expression of 5T4 ~~expression~~ is detected by anti-5T4 antibodies.

7. (Canceled)

8. (Currently Amended) A method of detecting differentiation status of a population of mammalian pluripotent ~~embryonic~~ stem cells comprising the steps of:

a) obtaining cells from the population of mammalian pluripotent stem cells ~~taking a sample of cells from said population of mammalian embryonic stem cells;~~

b) incubating said cells ~~sample~~ with a ~~labeled~~ anti-5T4 antibody such that specific binding of anti-5T4 antibody to 5T4 antigen occurs; and

c) detecting said binding of said antibody wherein binding of the anti-5T4 antibody to cells ~~in the sample~~ is indicative of the presence of 5T4 and stem cells undergoing differentiation.

9. (Currently Amended) A method for separating ~~a population of~~ undifferentiated mammalian pluripotent embryonic stem cells ~~[[or]] from~~ mammalian embryonic stem cells undergoing differentiation with in a population of mammalian stem cells ~~from a mixture of undifferentiated mammalian embryonic stem cells and mammalian embryonic stem cells undergoing differentiation~~ comprising:

a) incubating the population mammalian stem cells ~~binding cells, in the mixture~~ with anti-5T4 antibody, ~~wherein 5T4 expression indicates stem cells that are undergoing differentiation;~~

b) separating cells ~~[[with]]~~ bound to antibody from cells with no bound antibody; and

c) isolating either the bound or unbound cells.

10. (Previously presented) A method as claimed in claim 9 wherein said isolated cells are viable.

11-20. (Canceled)

21. (New) The method according to claim 8, wherein the anti-5T4 antibody is labeled.

22. (New) The method according to claim 9, wherein the anti-5T4 antibody is labeled.

23. (New) The method according to claim 9, wherein the anti-5T4 antibody is immobilized.